



**Beth Israel Deaconess
Medical Center**



A teaching hospital of
Harvard Medical School

ADULT STRUCTURAL HEART FELLOWSHIP PROGRAM
Department of Anesthesia, Critical Care and Pain Medicine
Beth Israel Deaconess Medical Center

Structural Heart Fellowship Program

The scope of practice for cardiac anesthesiology is ever-changing and has progressed to currently occupy a critical locus at the crossroads of cardiac surgery, interventional cardiology and imaging. The Adult Structural Heart Anesthesia (ASHA) Fellowship represents dedicated training to comprehensively address this expanding need for competence and expertise in the anesthetic management of structural heart disease.

The ASHA fellowship is a six-month to one-year, non-ACGME accredited program. This fellowship incorporates a 50% commitment to perioperative structural heart disease anesthesia training and a 50% commitment as a Junior Faculty member in the Department of Anesthesia, Critical Care and Pain Medicine.

Working within the well-established BIDMC structural heart multidisciplinary team model, the fellow will develop the skills and knowledge requisite to expertly provide care for patients undergoing structural heart procedures.

Requirements

The following experience and/ or certification will be necessary for eligibility for acceptance to ASHA fellowship:

- Completion of an ACGME Anesthesiology residency
- Anesthesiology Board certification or eligibility
- Eligibility for full Massachusetts medical license
- Completion, or intention to complete an Adult Cardiothoracic Anesthesia Fellowship

Overall Program Organization: Educational Goals/Objectives

The overall goal of the Structural Heart Fellowship Program is to educate fellows who, at the conclusion of the program:

- Demonstrate safe and comprehensive anesthetic management of patients during structural heart procedures, including but not limited to Transcatheter Aortic Valve Replacement (TAVR), percutaneous mitral clip placement, percutaneous Atrial Septal Defects (ASD) and Ventricular Septal Defect (VSD) occlusions/ repairs, Left Atrial Appendage Occlusion Watchman procedures and percutaneous Paravalvular Leak Repairs.
- Demonstrate the skills, knowledge, and attitudes required to enter the unsupervised practice of the peri-operative anesthesia management of these procedures. Involvement will extend from assessing suitability, providing guidance, establishing success and excluding complications.
- Conduct or contribute to one or more scholarly projects that lead to national presentation and/or publication.

- Demonstrate practices consistent with continued professional growth.

Program Background

The ASHA fellowship at Beth Israel Deaconess Medical Center (BIDMC) is a six month to one-year program. It is designed to develop expertise in the anesthetic care of patients undergoing an ever-expanding procedural list not entailing traditional open heart cardiac surgery within the conventional operating room environment.

Cardiac catheterization laboratories are now sites of interventions that were once performed in traditional operating rooms with cardiopulmonary bypass. With these expansions in technology and hospital geography, the expectations of surgeons and interventional cardiologists continue to rise. The advanced cardiac anesthesiologist is increasingly tasked with the ability to derive and convey precise and objective information in this novel environment.

A centerpiece of this transformation has been intraoperative echocardiography as a vital procedural adjunct during percutaneous interventions. Additionally, particularly with the development of 'hybrid' operating rooms, the advancement of imaging to include co-registration of multiple imaging modalities in the production of 'fused' images is more mainstream.

Furthermore, structural heart disease procedures are growing at a remarkable pace. It is accepted that a mounting proportion of open-heart procedures will gradually be somewhat supplanted by more minimally invasive options for patients with structural heart disease as technology evolves.

The core philosophy in the ASHA Fellowship is to train the fellow in all areas of the field. This will ensure that the future cardiac anesthesiologist will have the clinical, research and educational foundation required to provide the highest level of care to these patients, educate other cardiac, as well as participate in the scientific evolution of the field.

BIDMC is a major teaching affiliate of Harvard Medical School (HMS). The cardiovascular service line is a quaternary referral center in Boston undertaking 1200 cardiac surgical procedures per year. The Department of Anesthesia, Critical Care, and Pain Medicine at BIDMC trains approximately 54 residents, twelve fellows, and one third of the HMS students each year. The duty hours will be monitored to comply with ACGME requirements.

Structure of the fellowship:

A. Core components:

- a. *Structural Heart Anesthesia Dedicated Time:* The fellow will develop expertise in anesthetic management across the range of percutaneous structural heart case mix.
- b. *3-D echocardiography Dedicated Time:* The fellow will develop three-dimensional echocardiographic skills in order to provide real-time procedural guidance.

B. Electives:

- a. *Interventional Cardiology Elective:* The fellow will spend dedicated time with this service line in order to specifically concentrate on aspects of patient selection and candidacy as well as pre-operative work-up. The fellow will have dedicated exposure to the intraoperative interventionalist role.

- b. *Non-invasive cardiac imaging Elective:* The fellow will spend dedicated time with this service line in order to understand the use, acquisition and interpretation of cardiac MRI, fluoroscopy, intra-cardiac echocardiography and co-registration of imaging modalities. The fellow will through this elective be able to understand and provide real-time multimodal procedural guidance.